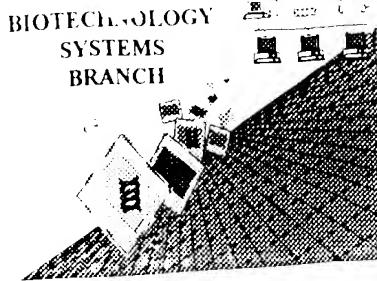


RAW SEQUENCE LISTING

ERROR REPORT



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/820,053
Source: O1PE
Date Processed by STIC: 4/11/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE
APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A
NOTICE TO COMPLY
FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST 25.

Property Organization (WIPO) Standard ST 25
Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be downloaded from the USPTO website at the following address:
<http://www.uspto.gov/web/offices/pac/checker>

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/820,053

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- | | |
|--|---|
| <input type="checkbox"/> 1 Wrapped Nucleics | <p>The number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".</p> |
| <input type="checkbox"/> 2 Wrapped Aminos | <p>The amino acid number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".</p> |
| <input type="checkbox"/> 3 Incorrect Line Length | <p>The rules require that a line not exceed 72 characters in length. This includes spaces.</p> |
| <input type="checkbox"/> 4 Misaligned Amino Acid Numbering | <p>The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.</p> |
| <input type="checkbox"/> 5 Non-ASCII | <p>This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.</p> |
| <input type="checkbox"/> 6 Variable Length | <p>Sequence(s) _____ contain n's or Xaa's which represented more than one residue.
As per the rules, each n or Xaa can only represent a single residue.
Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.</p> |
| <input type="checkbox"/> 7 PatentIn ver. 2.0 "bug" | <p>A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.</p> |
| <input type="checkbox"/> 8 Skipped Sequences (OLD RULES) | <p>Sequence(s) _____ missing. If intentional, please use the following format for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO:X:
 (i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:
 This sequence is intentionally skipped
 Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
 Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s). </p> |
| <input type="checkbox"/> 9 Skipped Sequences (NEW RULES) | <p>Sequence(s) _____ missing. If intentional, please use the following format for each skipped sequence.
 <210> sequence id number
 <400> sequence id number
 000 </p> |
| <input type="checkbox"/> 10 Use of n's or Xaa's (NEW RULES) | <p>Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.</p> |
| <input type="checkbox"/> 11 Use of "Artificial" (NEW RULES) | <p>Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules.
 Valid response is Artificial Sequence.</p> |
| <input type="checkbox"/> 12 Use of <220>Feature (NEW RULES) | <p>Sequence(s) _____ are missing the <220>Feature and associated headings.
 Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial Sequence" or "Unknown"
 Please explain source of genetic material in <220> to <223> section.
 (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)</p> |
| <input type="checkbox"/> 13 PatentIn ver. 2.0 "bug" | <p>Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other means to copy file to floppy disk.</p> |

OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\I820053.raw

PR 1-5

Does Not Comply
Corrected Diskette Needed

3 <110> APPLICANT: Owen, Donald R.
5 <120> TITLE OF INVENTION: SHORT BIOACTIVE PEPTIDES
7 <130> FILE REFERENCE: HELX027
9 <140> CURRENT APPLICATION NUMBER: US/09/820,053
10 <141> CURRENT FILING DATE: 2001-03-28
12 <160> NUMBER OF SEQ ID NOS: 165
14 <170> SOFTWARE: PatentIn Ver. 2.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 23
18 <212> TYPE: PRT
19 <213> ORGANISM: SYNTHETIC
21 <400> SEQUENCE: 1 Per 1.823 of Sequence Rules, the only valid <213>
22 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys 15
23 1 5 10 15
25 Lys Ala Leu Lys Lys Ala Leu 20
26 20
29 <210> SEQ ID NO: 2
30 <211> LENGTH: 23
31 <212> TYPE: PRT
32 <213> ORGANISM: SYNTHETIC
34 <220> FEATURE:
35 <221> NAME/KEY: MOD_RES
36 <222> LOCATION: (23)
37 <223> OTHER INFORMATION: AMIDATION
39 <400> SEQUENCE: 2
40 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys 15
41 1 5 10 15
43 Lys Ala Leu Lys Lys Ala Leu 20
44 20
47 <210> SEQ ID NO: 3
48 <211> LENGTH: 38
49 <212> TYPE: PRT
50 <213> ORGANISM: SYNTHETIC
52 <400> SEQUENCE: 3
53 Met Pro Lys Trp Lys Val Phe Lys Lys Ile Glu Lys Val Gly Arg Asn 15
54 1 5 10 15
56 Ile Arg Asn Gly Ile Val Lys Ala Gly Pro Ala Ile Ala Val Leu Gly 30
57 20 25
59 Glu Ala Lys Ala Leu Gly 35
60 35
63 <210> SEQ ID NO: 4
64 <211> LENGTH: 23
65 <212> TYPE: PRT
66 <213> ORGANISM: SYNTHETIC
68 <220> FEATURE:
69 <221> NAME/KEY: MOD_RES
70 <222> LOCATION: (23)

responser are: Unknown,
Artificial Sequence, or
Scientific name (Genus/species)
(one of the three)

(See circled
portion of item 12
on Error Summary
sheet)

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\1820053.raw

71 <223> OTHER INFORMATION: AMIDATION

73 <400> SEQUENCE: 4
73 Phe Ala Lys Lys Leu Ala Lys Lys Leu Ala Lys Lys Leu
74 15
74 5
75 1
75 5
76 Ala Lys Leu Ala Leu Ala Leu
77 20
78

81 <210> SEQ ID NO: 5

82 <211> LENGTH: 38

83 <212> TYPE: PRT

84 <213> ORGANISM: SYNTHETIC

86 <220> FEATURE:

87 <221> NAME/KEY: MOD_RES

88 <222> LOCATION: (38)

89 <223> OTHER INFORMATION: AMIDATION

91 <400> SEQUENCE: 5
91 Met Pro Lys Trp Lys Val Phe Lys Lys Ile Glu Lys Val Gly Arg Asn
92 15
92 10
93 5
93 30
95 Ile Arg Asn Gly Ile Val Lys Ala Gly Pro Ala Ile Ala Val Leu Gly
96 20
96 25
98 Glu Ala Lys Ala Leu Gly
99 35

102 <210> SEQ ID NO: 6

103 <211> LENGTH: 23

104 <212> TYPE: PRT

105 <213> ORGANISM: SYNTHETIC

107 <400> SEQUENCE: 6
107 Phe Ala Lys Lys Leu Ala Lys Lys Leu Ala Lys Lys Leu
108 15
108 10
109 5

109 1
111 Ala Lys Leu Ala Leu Ala Leu

112 20

115 <210> SEQ ID NO: 7

116 <211> LENGTH: 23

117 <212> TYPE: PRT

118 <213> ORGANISM: SYNTHETIC

120 <220> FEATURE:

121 <221> NAME/KEY: MOD_RES

122 <222> LOCATION: (23)

123 <223> OTHER INFORMATION: AMIDATION

125 <400> SEQUENCE: 7
125 Gly Ile Gly Lys Phe Leu His Ser Ala Lys Lys Phe Gly Lys Ala Phe
126 15
126 10
127 5

127 1
129 Val Gly Gly Ile Met Asn Ser

130 20

133 <210> SEQ ID NO: 8

134 <211> LENGTH: 23

135 <212> TYPE: PRT

136 <213> ORGANISM: SYNTHETIC

138 <220> FEATURE:

139 <221> NAME/KEY: MOD_RES

4/11/01

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

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Output Set: N:\CRF3\04112001\I820053.raw

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145 1 5
147 Lys Leu Ala Lys Lys Ala Leu
148 20
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152 <211> LENGTH: 23
153 <212> TYPE: PRT
154 <213> ORGANISM: SYNTHETIC
156 <220> FEATURE:
157 <221> NAME/KEY: MOD_RES
158 <222> LOCATION: (23)
159 <223> OTHER INFORMATION: AMIDATION
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163 1 5
165 Lys Leu Ala Lys Lys Ala Leu
166 20
169 <210> SEQ ID NO: 10
170 <211> LENGTH: 23
171 <212> TYPE: PRT
172 <213> ORGANISM: SYNTHETIC
174 <220> FEATURE:
175 <221> NAME/KEY: MOD_RES
176 <222> LOCATION: (23)
177 <223> OTHER INFORMATION: AMIDATION
179 <400> SEQUENCE: 10
180 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Leu Ala Lys Lys 15
181 1 5
183 Lys Leu Ala Lys Lys Ala Leu
184 20
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188 <211> LENGTH: 21
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194 <222> LOCATION (21)
195 <223> OTHER INFORMATION: AMIDATION
197 <400> SEQUENCE: 11
198 Phe Ala Leu Ala Lys Leu Ala Lys Ala Lys Leu Lys Lys 15
199 1 5
201 Ala Leu Lys Ala Leu
202 20
205 <210> SEQ ID NO: 12
206 <211> LENGTH: 19
207 <212> TYPE: PRT

4/11/01

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\I820053.raw

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210 <220> FEATURE:
211 <221> NAME/KEY: MOD_RES
212 <222> LOCATION: (19)
213 <223> OTHER INFORMATION: AMIDATION
215 <400> SEQUENCE: 12
216 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Leu Lys Ala Leu Lys
217 1 5 10 15
219 Lys Ala Leu
223 <210> SEQ ID NO: 13
224 <211> LENGTH: 19
225 <212> TYPE: PRT
226 <213> ORGANISM: SYNTHETIC
228 <400> SEQUENCE: 13
229 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Leu Lys Ala Leu Lys
230 1 5 10 15
232 Lys Ala Leu
236 <210> SEQ ID NO: 14
237 <211> LENGTH: 19
238 <212> TYPE: PRT
239 <213> ORGANISM: SYNTHETIC
241 <400> SEQUENCE: 14
242 Phe Ala Lys Lys Leu Ala Lys Lys Leu Lys Lys Leu Ala Lys Leu Ala
243 1 5 10 15
245 Leu Ala Leu
249 <210> SEQ ID NO: 15
250 <211> LENGTH: 23
251 <212> TYPE: PRT
252 <213> ORGANISM: SYNTHETIC
254 <220> FEATURE:
255 <221> NAME/KEY: MOD_RES
256 <222> LOCATION: (23)
257 <223> OTHER INFORMATION: AMIDATION
259 <400> SEQUENCE: 15
260 Val Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys Lys Leu Lys
261 1 5 10 15
263 Lys Ala Leu Lys Ala Leu
264 20
267 <210> SEQ ID NO: 16
268 <211> LENGTH: 16
269 <212> TYPE: PRT
270 <213> ORGANISM: SYNTHETIC
272 <220> FEATURE:
273 <221> NAME/KEY: MOD_RES
274 <222> LOCATION: (16)
275 <223> OTHER INFORMATION: AMIDATION
277 <400> SEQUENCE: 16
278 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Lys Lys Ala Leu
279 1 5 10 15

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:33

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\1820053.raw

282 <210> SEQ ID NO: 17
283 <211> LENGTH: 17
284 <212> TYPE: PRT
285 <213> ORGANISM: SYNTHETIC
287 <220> FEATURE:
288 <221> NAME/KEY: MOD_RES
289 <222> LOCATION: (17)
289 <223> OTHER INFORMATION: AMIDATION
290 <400> SEQUENCE: 17
292 <400> SEQUENCE: 17
293 Phe Ala Lys Lys Leu Ala Lys Leu Ala Lys Leu Ala Lys Leu Ala 15
294 1 5
296 Leu
300 <210> SEQ ID NO: 18
301 <211> LENGTH: 19
302 <212> TYPE: PRT
303 <213> ORGANISM: SYNTHETIC
305 <220> FEATURE:
306 <221> NAME/KEY: MOD_RES
307 <222> LOCATION: (19)
308 <223> OTHER INFORMATION: AMIDATION
309 <400> SEQUENCE: 18
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311 Phe Ala Lys Lys Leu Ala Lys Leu Ala Lys Lys Leu Ala Lys Leu Ala 15
312 1 5
314 Leu Ala Leu
318 <210> SEQ ID NO: 19
319 <211> LENGTH: 23
320 <212> TYPE: PRT
321 <213> ORGANISM: SYNTHETIC
323 <220> FEATURE:
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325 <222> LOCATION: (13)..(14)
326 <223> OTHER INFORMATION: Xaa = D-lysine
328 <400> SEQUENCE: 19
329 Phe Ala Leu Ala Leu Lys Ala Leu Lys Lys Ala Leu Xaa Xaa Leu Lys 15
330 1 5
332 Lys Ala Leu Lys Ala Leu 10
333 20
336 <210> SEQ ID NO: 20
337 <211> LENGTH: 15
338 <212> TYPE: PRT
339 <213> ORGANISM: SYNTHETIC
341 <220> FEATURE:
342 <221> NAME/KEY: MOD_RES
343 <222> LOCATION: (15)
344 <223> OTHER INFORMATION: AMIDATION
346 <400> SEQUENCE: 20
347 Phe Ala Lys Lys Leu Ala Lys Leu Ala Lys Lys Leu Leu Ala Leu 15
348 1 5
351 <210> SEQ ID NO: 21

Please correct this &
subsequent seq

Please correct this error in
subsequent sequences

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/820,053

DATE: 04/11/2001
TIME: 15:25:34

Input Set : A:\Helx027.app
Output Set: N:\CRF3\04112001\1820053.raw

L:9 M:270 C: Current Application Number differs, Replaced Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:329 M:341 W: (46). "n" or "Xaa" used, for SEQ ID#:19